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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,194

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EXAMINER

CHASE, SHELLY A

ART UNIT

PAPER NUMBER

2112

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,194	<b>Applicant(s)</b> GOLITSCHKE EDLER VON ELBWART ET AL.	
	<b>Examiner</b> Shelly A. Chase	<b>Art Unit</b> 2112	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 13, 15 and 18 is/are rejected.
- 7) ☒ Claim(s) 11, 14 and 19-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1-20-2006 &amp; 3-23-2006</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1 to 23 are presented for examination. Acknowledgement is made of the preliminary amendment filed 1-20-2006.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119, which papers have been placed of record in the file.

#### ***Information Disclosure Statement***

3. The references listed in the information disclosure statement submitted on 1-20-2006 and 3-23-2006 have been considered by the examiner (see attached PTO-1449).

#### ***Claim Objections***

4. Claim 11 is objected to because of the following informalities: please change "code go blocks" to --- code blocks ---.

Appropriate correction is required.

5. Claims 22 and 23 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 22 and 23 are directed to devices and does not further limit the method steps of independent claim 1.

Note: Claims 22 and 23 have not been further treated on the merits.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims **1 to 4, 6 to 10, 12 to 13 and 15** are rejected under 35 U.S.C. 102(b) as being anticipated by Suemura et al. (USP 5687181).

Claim **1**:

Suemura teaches a parallel data transmission unit using byte error correcting code for a parallel digital signal having a data width of 64 bits, the unit comprising: a byte wide divider (3) dividing the input parallel data "**k**" into multiple 4 bits data *i* (see col. 3, lines 28 to 37) and forwarding the multiple data bits "**i**" to multiple encoders wherein the byte length is 4 bits and a code length is of 10 bytes (see col. 4, lines 57 to 67). Suemura also teaches that each encoder encodes the "**d**" wide data received respectively (see col. 3, lines 39 to 46 and col. 4, lines 56 et seq.).

As per claim **2**, Suemura teaches that the divided data are forward to multiple encoders operating individually on the data received (see col. 3, lines 39 to 44 and col. 6, lines 27 et seq.).

As per claim **3**, Suemura teaches that the encoding of data are performed by encoders arranged in parallel according to the number of transmitters (see col. 5, lines 1 to 5) and that the byte divider provides separate data to each encoder (see fig. 3 and col. 4, lines 50 et seq.).

As per claims **4** and **7**, Suemura teaches that the input parallel data is a “**k**” time series data (see col. 3, lines 29 to 35) and using a time division multiplexing step for processing the data (see col. 6, lines 55 to 65).

As per claims **6** and **8**, Suemura teaches encoding according to a Reed Solomon code as well as according to 8B/10B and that a plurality of parallel transmitters (x10) are used with 8B/10B encoders (see col. 5, lines 29 to 35 and col. 6, lines 55 to 63).

As per claims **9** and **10**, Suemura teaches that each encoder receives 4 bit data (see fig. 3 and col. 4, lines 60 to 67) and that the interleaved bits are distributed between 5 transmitters wherein each transmitter includes bits outputted from each encoder (see col. 5, lines 1 to 10), which reads on "wherein the information bits of the individually encoded code block segments are complementary to each other."

As per claims **12** and **13**, Suemura teaches that a byte integrater (6) integrates the encoded data after the coding process (see col. 5, lines 24 to 28) and an interleaver (4) interleaves the coded data (see fig. 3 and col. 5, lines 1 to 3).

As per claim **15**, Suemura teaches in the second embodiment that the divided data are interleaved before being encoded by the 8B/10B encoder (see fig. 4, col. 6, lines 27 et seq.).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim **5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suemura et al. in view of Frederickson (USP 6105159).

As per claim **5**, Suemura does not specifically teach that the data is applied to a buffer prior to encoding; however, Frederickson in an analogous art teaches a digital communication system (20) including an encoder (24) wherein data is applied to a buffer (62) before being encoded by an encoder (64) (see fig. 2 and col. 5, lines 59 et seq.). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to realize that the transmission unit of Suemura would have comprised of an encoder device having a buffer before the encoder as taught by Frederickson since, Frederickson teaches that the ability to correct more errors includes using an encoder with a buffer (see col. 3, lines 10 to 20). This modification would have been obvious because a person of ordinary skill in the art would have been motivated to employ an efficient method for detecting and correcting more errors as taught by Frederickson.

10. Claim **18** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suemura et al. in view of Watanabe et al. (USP 4965576).

As per claim **18**, Suemura does not specifically teach that the steps includes inserting an error detection code before the encoding step; however, Watanabe in an analogous art teaches an error correction system for a transmission unit wherein calculation units calculate redundancy values ("error detection code") and add them to

the divided data before encoding the divided data and the added redundancy data (see fig. 3 and col. 4, lines 55 to 65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to realize that the transmission unit of Suemura would have included a step of adding redundancy values before the encoding step as taught by Watanabe since, Watanabe teaches that applying redundancy are know and used in the art for detecting single, double or triple errors (see col. 1, lines 25 et seq.). This modification would have been obvious because a person of ordinary skill in the art would have been motivated to employ an effective method for detecting and correcting multiple errors as taught by Watanabe.

### ***Allowable Subject Matter***

11. Claims 11, 14, 16, 17 and 19 to 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelly A. Chase whose telephone number is 571-272-3816. The examiner can normally be reached on Mon-Fri from 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on 571-272-6962. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shelly A Chase/  
Primary Examiner, Art Unit 2112